ation of the plans, and perhaps the entrance has in some measure suffered. On entering the door, the guest turns to the left, along a narrow passage of a few feet in length, and again turns to the right, and passes a window where he deposits the price of his lodging. He again turns to the right, and may either ascend or descend the staircase, or pass on to the common room. We believe some arrangement is contemplated by which guests can be supplied with refreshments at moderate prices, and, we presume, they will be allowed to provide and cook their own victuals, as usual at places of this description. There will be every convenience for washing, for which, and all other purposes, there is an ample supply of water. The floor of the story above the basement is supported by brick arches and iron girders, and the floors to the dormitories are of wood, supported by strong iron girders. We understand the dimensions of the south dormitory are about 34 feet by 23 feet, and of that north of the staircase 26 feet 6 inches by 23 feet. The staircase is of stone. One of the inclosing walls, that next the entrance doorway, is only 4½ inches thick, and that was all that the space at disposal, would allow of, although the steps had to be tailed into it, and the wall carried above to the top of the building. Security and convenience, seem, however, to have been carefully considered, and as the steps have a bearing below, all that has been thought requisite has been the building the wall in cement; a 9-inch wall to the stairs above being supported by a T-shaped girder, of which the central flange dips like railway rails. Its ends are well supported, partly by an iron column built into the thickness of the 4½ inch wall. The dormitories are fitted up in compartments of about 8 feet 9 inches by 4 feet 3 inches to 4 feet 9 inches, by boarded partitions, 6 feet 6 inches in height, with doors to each, each of which compartments will contain a bed. There is a central passage, 4 feet 9 inches wide, along the room. As the building is lighted on one side only, half of these compartments have no windows opening into them, but will not be very deficient in light, the room being well lighted, and not inconveniently low. The windows are divided into two lights by a wood mullion, and each of these has its lower half hung as a sash, two panes at the top being provided with the means of ventilation. Twelve compartments have been fitted up in one of the rooms at the north end. Those southward would, we suppose, accommodate a larger number. The walls and ceilings are all plastered. The rooms on the top floor are ceiled at the level of the tie-beam. The floors of the passages are of slate, 2 inches thick. Amongst the conveniences not yet described, are the lavatories and water-closets. The former are contrived thus:—oval basins are hollowed out in solid blocks of slate, which are supported at a height of 3 feet from the ground, on the edge of a slab of slate, leaving a space which serves for the admission of warm air to the dormitories. The basins are furnished with a plug, and supply of water is obtained from two slate cisterns on each floor above, and there is a large cistern of the same description in the roof. The plumber's work must have formed a considerable item in the expense of the building. There are six basins to each floor, but we regret to see that there will be only one water-closet, which, to accommodate not less than five-and-twenty persons, must be quite inadequate. There is, however, an evident difficulty in devising further accommodation of this nature, the space corresponding with the entrance passage being the only one that, with this arrangement of the plan, could be made available. A top light to the staircase would also have been desirable, as well for additional light, which may, perhaps, be required when the small area becomes inclosed by buildings, as affording the means of assisting the ventilation, a matter of such extreme difficulty. The latter point seems, however, to have been carefully considered. There are not only the arrangements in the windows before described, to which should be added similar provision in those which open into the area, but at each end of the building there is a shaft, communicating with each floor by openings immediately under the ceiling. Within this shaft burns the light for each room, seen through an opening. Warm air will be admitted from the space below the basins, before described, near the doorway, at the floor of the room. The arrangements for heating are not yet completed. Mr. Hicks, of Lambeth, is the contractor, and the work generally seems to have been very well executed. Mr. H. Roberts is the architect.

We look forward with pleasure to the opening of a building of this nature, and the society cannot do better than continue their useful labours, in connection with every description of want. However we may at times feel it necessary to remark upon particular details, we have sufficient in common with them, to desire anxiously their success. The society has lately put in repair and opened, on improved principles, one of the lodging-houses in Charles-street, Drury-lane; and we trust that, from such improvements, they will not only derive satisfaction, but the means of continuing their labours. The immense profits made by some of the owners of the most wretched lodging-houses, seem not to have induced any persons to build premises upon a better system. Landlords and speculators are certainly not interested in keeping matters as they are at present.

ROYAL INSTITUTE OF ARCHITECTS.

GEOMETRIC PROPORTIONS OF ANCIENT GOTHIC CHURCHES.

An ordinary meeting of the Institute was held on Monday, the 14th inst., Mr. Ambrose Poynter, V.P., in the chair. Mr. W. P. Griffith was elected a Fellow. On the well-known engraved section of St. Paul's being presented, Mr. Donaldson remarked that it was much to be regretted that the cathedral had not been decorated in accordance with Wren's intention, and the chairman expressed a hope that a long time would not elapse before it was attempted.

A very interesting communication from Mr. Layard, addressed to Mr. Mair from Nimroud, was read: relating to further excavations recently made. We shall lay it before our readers hereafter. In illustration of it, drawings of some of the bas-reliefs, already sent home by Mr. Layard, and now to be seen in the British Museum, were exhibited, and led to some interesting conversation.

The Dean of Westminster said the material in which these extraordinary sculptures are worked is not marble but *gypsum*, and is so soft, that the nail will scratch it. He thought this an important fact. As this material could be obtained in large quantities, and was extremely easy to work, it was important to know of its power of retaining forms given to it for thousands of years. It is identical with the alabaster of workmen, not oriental alabaster, and may be had in slabs of large size in Italy. Marble exposed to alterations of temperature would not last so long. In Westminster Abbey, many of the marble tombs are destroyed by the precipitation on them of the moisture of the atmosphere, which is absorbed by the clay forming parts of the marble, and leads to decomposition: he would especially mention the tomb of the founder, and the shrine of Edward the Confessor. He hoped to cure it before long by properly warming the abbey. Purbeck marble ought not to be used unless an equable temperature can be obtained. Unless where preserved by grease from the hands or otherwise, the purbeck marble in the Abbey was decomposed. He was very anxious to know how best to clean marble monuments. Workmen sometimes put acid into the water, and this had the effect of destroying the surface. If we knew how to clean marble monuments, especially those exposed to the air, as in cemeteries, it would be very useful. He would not conclude without stating his opinion that Mr. Layard's were the most marvellous discoveries that had been made for many years.

Mr. C. H. Smith said, the alkaline constituent of soap was the best thing that could be used; the fat that soap contained stained the marble. He thought the decomposition spoken of depended more on temperature than moisture.

M. Pusilion, a French architect, visiting London on professional business, was then introduced to the meeting;* and a series of thirty-four sketches by Dr. Bromet, illustrative especially of French castellated architecture, were laid on the table.

* We hear, and we confess with some surprise, that M. Dusilion has been brought over by Mr. H. T. Hope, to build his new house at the corner of Down-street, in Piccadilly. Mr. Donaldson is to be associated with him in carrying it out.

Mr. R. Dennis Chantrell read a paper "On the geometric system applied by the mediæval architects to the proportions of their ecclesiastical structures," which was profusely illustrated by diagrams, and excited much interest. We shall give it in full next week.

Immediately on the close of Mr. Chantrell's paper, Mr. Godwin said he had been requested to bring before them a copy of a work on the same subject by Mr. Griffith, who had been elected that evening. Mr. Griffith had been engaged many years in the investigation, and having heard of Mr. Chantrell's intention, was of course anxious that his work should appear on the table of the Institute at the moment Mr. Chantrell laid before them the result of his inquiries. It was accompanied by the following letter, which he would read:—

"I beg to forward a proof of the first part of a work, in which I am in hope of finally settling the question, 'As to the principles which guided the architects in constructing the minsters, cathedrals, and churches of England,' and shall feel obliged by your submitting the same to the meeting of the Institute of British Architects, to be held on Monday evening.

In a former work, entitled, 'The Natural System of Architecture,' I maintained, 'In treating of forms keeping symmetry and proportion in view, as in architecture, all figures used must be regular, with equal sides and angles,' and alluded to the triangle, square, and pentagon, as three primary figures. In plates 9 and 10 were given nineteen examples of the application of regular figures in producing certain details in pointed architecture, viz., trefoils, tetrafoils, pentafoils, crosses, foliated crests, rose-windows, arches, &c. Regular figures, with the early architects, were of great importance: in pointed architecture they were the *creative principle* in plan, section, elevation, and details, however small. Figures of this kind were not valued for their symmetrical qualities alone; their power in aiding construction, *by equally distributing all the points of support*, was well understood and appreciated.

I have not given one method for arranging the plans of churches, and another for their sections. If the same primary figure, and of the same size or scale, by which the plan was designed, be transferred to another sheet of paper, it will, in like manner, find the height of the nave, columns, and roof, the aisles, their roofs, buttresses, &c.; and the centres for striking the arches of the nave and aisles, &c.

I beg to direct your attention, and that of the members of the Institute, to plate 3, which is the most perfectly developed plan upon geometrical principles that has ever been issued.

The examples which I have given have not been selected because they suit, in preference to many others; having them at hand from actual measurement has been my principal reason. The system I have laid down applies to all Gothic cathedrals and churches constructed by the early architect.

If the Chairman will detain the members of the Institute but five minutes, and take a pair of compasses in his hand, and proceed according to the following directions, the plan of every cathedral and church will be explained:

Take Britton and Pugin's "Public Buildings of London," Vol. II. p. 151, in which is a plan from measurement by Mr. Pugin of Westminster Abbey; for the centre of the tower be the apex of an equilateral triangle, its base will be upon a line taken through the third axis of buttresses and column as from, or westward of the tower (including the walls); and the apex of the next triangle, on the seventh axis from the tower, and the base of the triangle will be at the west end of the nave. Now, take any plans from measurement, the plans for instance, in Britton's Cathedrals, or Winkle's Cathedrals, drawn by Mr. Garland; and Salisbury, Winchester, Rochester, and Ely, cathedrals, and Yorkminster, Bath Abbey, and Redcliffe Church, will all be found to have been proportioned *exactly* upon the same principles. The transepts, chancels, and lady-chapels, will be found to comply equally as well.

With respect to crypts, take the fifth volume of Britton's "Antiquities of Great Britain," and refer to the plan of crypts. Fig. 2, is that of St. Peter's Church, Oxford; let the east and the west ends (within the walls) each be the base of an equilateral triangle, the apex of each will meet in the centre; do the like upon

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